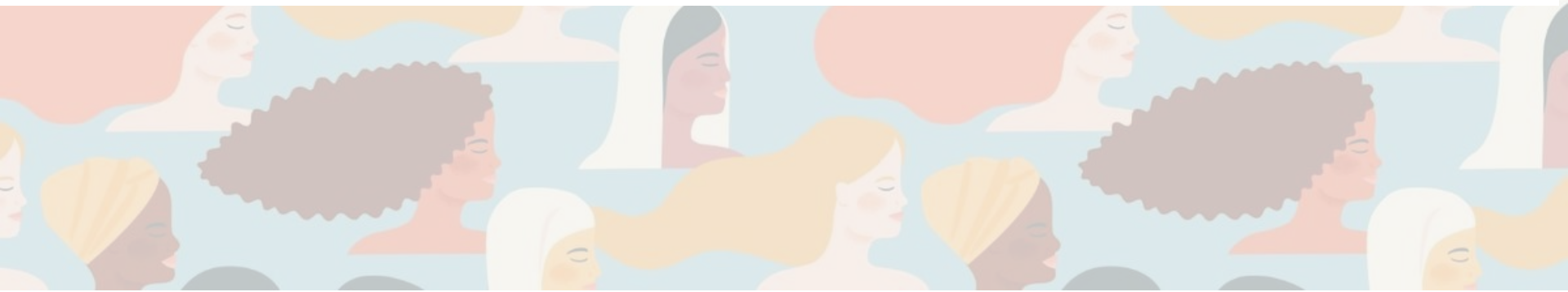




# Feminist Data Visualization

Andrea Aternali & Amanda Piccirilli



# Agenda

- Define feminism
  - Feminism in academia
  - Theory/Application to data visualization
- Considering situated knowledge
  - Reviewing examples
- Feminism-informed visualization example
- 6 principles of data visualization

# Feminism Defined

- Feminism: the belief in the social, economic and political equality of the sexes
- Feminist thinking and scholarship
  - Ideas about:
    - Identity
    - Power
    - Knowledge
    - Intersectionality



# Feminism in Data Visualization

- Considering the assumptions involved in:
  - Choices about data
  - Categorizations
  - Visual typology
  - Interaction and intended audience
  - Composition/structure of the design team
  - Involvement of the viewer

# Feminism in Data Visualization cont.



- Situated knowledge: acknowledging our own position in the world, we can produce knowledge with greater objectivity than if we claimed to be neutral observers
- Challenges: “letting numbers speak for themselves”

# Example: Allegheny Office of Children, Youth, and Families

- Uses an automated algorithmic model to predict risk
- Problems:
  - Wealthier parents have access to private health care services
  - Poorer parents who rely on public resources can be oversampled

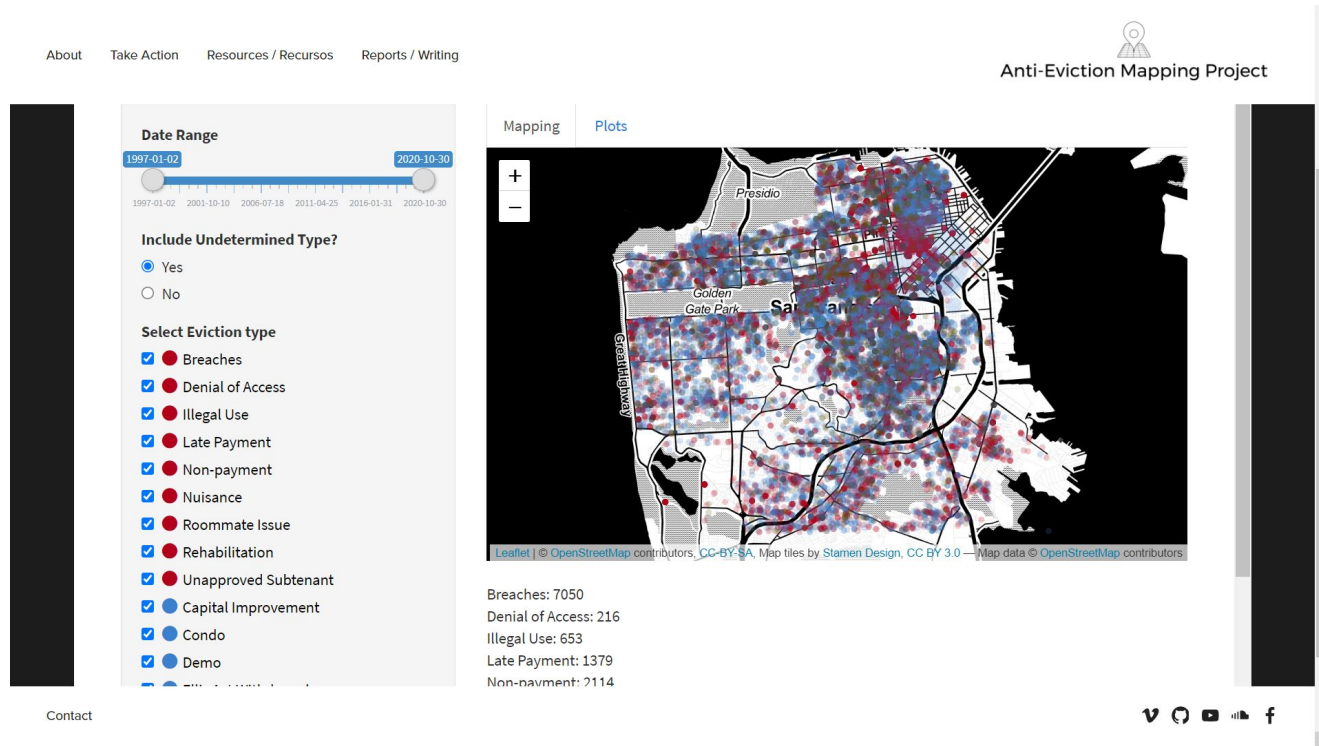
# Example: University Clery Reports

- Clery Act (1990)
- Some Universities have higher rates of sexual assault compared to others
- Problems:
  - Information is reported by a University
  - After further consult/interviews, Universities with higher rates were places with more survivor support

# Feminism-Informed Visualization

## Anti-Eviction Mapping Project

- Website has reports detailing where data comes from
- Data arranged by many variables
- Interactive

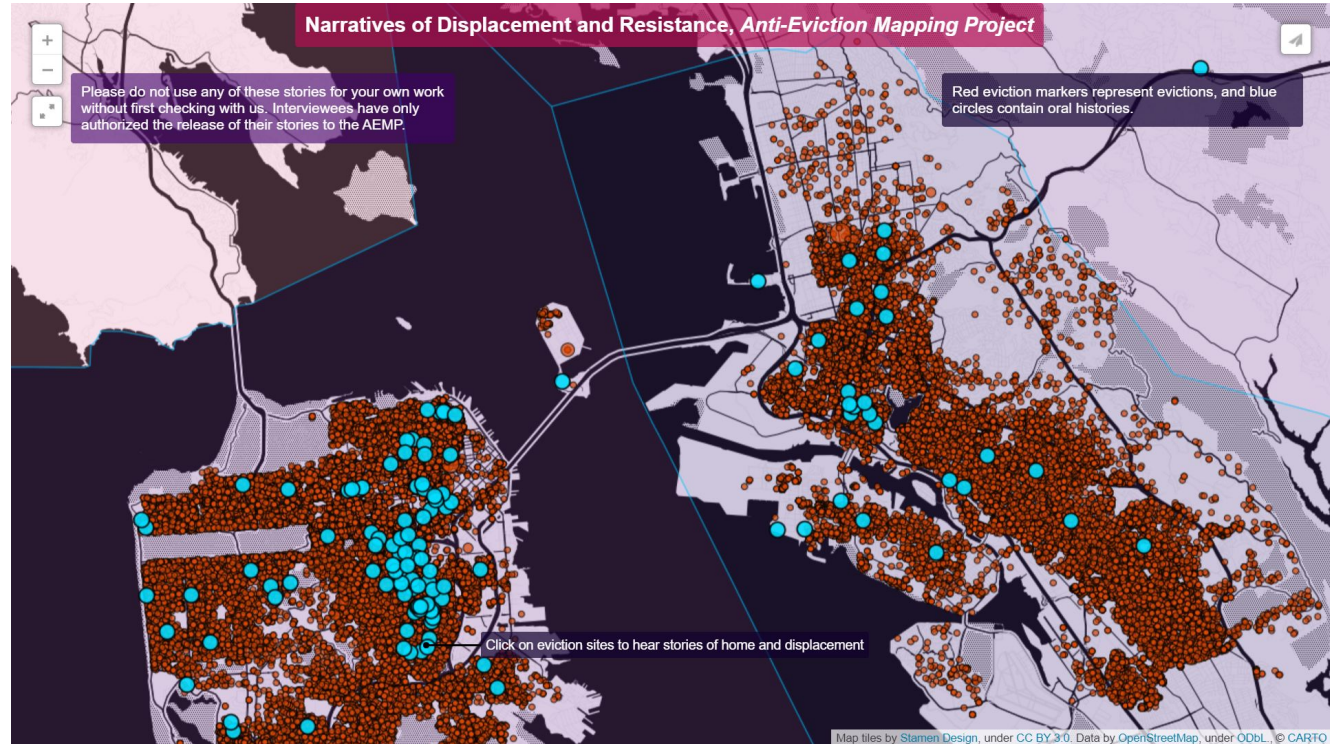


<https://antievictionmap.com/sf-evictions>



# Feminism-Informed Visualization cont.

- Interactive oral histories



<http://www.antievictionmappingproject.net/narratives.html>

# 6 Principles of Feminist Data Visualization

1. Rethink binaries
2. Embrace pluralism
3. Examine power and aspire to empowerment
4. Consider context
5. Legitimize embodiment and affect
6. Make labour visible

d'Ignazio & Klein, 2016

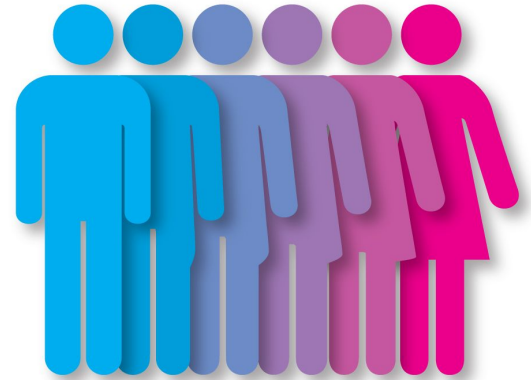
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# Rethink Boundaries

- Feminism rejects binary distinctions
- Feminist data visualization should not be illustrated as binary
  - Example: Gender
- Rethinking data collection, classification, and visualization



# Rethink Boundaries: Design Questions

- Is our data the right type?
- What categories have we taken for granted?
- How can we register responses that do not fit into the categories we provided?
- How do we communicate the limits of our categories in the final representation?

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# Embrace Pluralism



- Subjectivity of data collection
- Expose subjective decisions that went into visually representing data
- Importance of self-disclosure and emphasis on pluralism more generally
- Move away from “objective” representations to a more accurate pathway to multiple truths

d'Ignazio & Klein, 2016

# Embrace Pluralism: Design Questions

- Who is being envisioned as the ideal user?
- How could additional perspectives be accommodated, even those considered marginal?
- Whose view of the world does the visualization represent?
- Can the visualization communicate whose voices are missing?
- Could perspective-taking be a useful strategy to consider for multiple views on the data?

d'Ignazio & Klein, 2016



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# Examine Power and Aspire Empowerment



- Overturn power hierarchies by promoting horizontal system of knowledge transmission
- User is a source and receptor of knowledge
- Design for the community rather than the individual user

d'Ignazio & Klein, 2016

# Examine Power and Aspire Empowerment: Design Questions

- How is power distributed across the design team?
- Whose voice matters more and why?
- How can end users' voices be more fully integrated into the design process?
- Can the visualization empower the end user and/or the community, group, or organization?

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# Consider Context

- All knowledge is situated
- Consider how diverse contexts influence data visualization
  - Example: Data cleaning may homogenize data



d'Ignazio & Klein, 2016

# Consider Context: Design Questions

- How can research design be more human centered to learn more about people's cultures, histories, and worldviews?
- How can we let these insights shape research design?
- How can cultural artifacts, terminology, and symbols be incorporated into our research designs?
- How do we take context into account in the assessment of visualizations?

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# Legitimize Embodiment and Affect

- All data visualizations have embodied and affective impact
- Designers now intentionally leverage affect
- Under-explored in visualization research
- Embodiment and affect must be considered evaluating effectiveness of visualizations



# Legitimize Embodiment and Affect: Design Questions

- How can we leverage embodied and affective experience to enhance visualization design and engage users?
- What kinds of expertise might we need on our design team to do that?
- What kinds of embodied and affective experience has meaning to end users?

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# Make Labour Visible



- Make visible individuals that shape and care for the data
- Cite data courses and methods to build credibility
- Making labour visible promotes inclusion of underrepresented groups that have been excluded

d'Ignazio & Klein, 2016

# Make Labour Visible: Design Questions

- Has the team discussed roles, responsibilities, and credit in advance of publication?
- Is it possible to provide a metadata visualization that shows the source of the data at each step?
- Have we properly attributed work on the project?

# Application of 6 Principles

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**Thank you**



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